

10 Sep 1992

TE2NS-E

TESTER, SEMICONDUCTOR

1. GENERAL. This procurement requires a solid-state test set that presents a voltage versus current display of electronic components under test.

2. CLASSIFICATION. Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of displaying on a CRT the electronic signature of discrete and integrated circuit semiconductor junctions, capacitance, inductance, and resistance in and out of circuit.

3.1 Display. The equipment shall be provided with an integral CRT display. Controls for vertical and horizontal sweep position and brightness shall be provided.

3.2 Input channels. The equipment shall be provided with channels A and B, and alternating A and B.

3.3 Test signal. An internally generated transformer-coupled sine wave test signal shall be provided.

3.3.1 Frequencies. Line frequency, 400 Hz and 2 kHz.

3.4 Gate signal generator. The equipment shall be provided with a variable pulse/dc generator as detailed below.

3.4.1 Output level. -5V to +5V.

3.4.2 Duty cycle. 0% (dc) to 50%.

3.4.3 Current limit. 50 mA maximum.

3.4.4 Synchronization. The pulse signal shall be synchronized with the sine wave test signal.

3.4.5 Number of outputs. 2.

3.5 Comparator. The equipment shall be capable of alternately presenting voltage versus current displays of two integrated circuits as specified below.

3.5.1 Comparison modes. The equipment shall allow for manual and automatic comparison at a rate variable from once per second or less to at least eight times per second.

3.5.2 Pin selection. The equipment shall be capable of comparing integrated circuits that have 6 pins or less to at least 40 in dual in-line packages (DIPS). Each pin shall be operator selectable as a reference.

3.6 DIP clips. The equipment shall be provided with 40-pin and 16-pin DIP clips for in-circuit testing of integrated circuits.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 20W.

4.2 Weight. 10 kg (22 lb) maximum.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. Requests for approving the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.4 Accessories. Safety-designed test probes in accordance with MIL-T-28800 and other test leads necessary for comparison testing shall be provided.